

Just the Facts... **Medical Waste Disposal During Contingency Operations**

This fact sheet was developed to assist personnel on Forward Operating Bases (FOB)/Forward Operating Sites (FOS) in properly disposing of medical waste during deployment/ contingency operations. Proper management practices will safeguard the health of Soldiers and protect the environment. These guidelines are intended to assist Soldiers in developing unit and operation-specific standard operating procedures (SOPs) for medical waste disposal.

UNIVERSAL PRECAUTIONS

Apply and use Universal Precautions whenever handling or disposing of medical waste. This means wearing Personal Protective Equipment (PPE) to prevent contact with blood or other potentially infectious materials. At a minimum PPE should include gloves, goggles and skin protection.

NEVER use your personal gloves as PPE, this practice is prohibited. Gloves must be either disposable or dedicated solely for the use of handling medical waste.

Various types of gloves may be used for hand protection to include latex (surgical), butyl rubber, and any other type of utility glove that is impermeable to blood and body fluid. If using single-use surgical gloves consider double gloving as this type of glove is easily torn or punctured. Replace surgical gloves during use if they become visibly contaminated, or their ability to function as a barrier is otherwise compromised. If using multiple-use utility gloves they can be decontaminated for re-use if the integrity of the glove is not compromised. However, discard gloves if they become cracked, torn, punctured, or exhibit other signs of deterioration.

Wear safety goggles, safety glasses with side shields, or a face shield for appropriate face protection.

The use of desert camouflage uniforms (DCUs) will provide sufficient outerwear protection for the remainder of the body.

MEDICAL WASTE DISPOSAL

There are two options for medical waste disposal when a waste incinerator or pickup by a waste contractor is not available; open-burning or burying. Open burning is the preferred method because it reduces volume, destroys the pathogens and limits the opportunity for scavenging by local nationals.

SHARPS

Because sharps can still pose a puncture hazard even after burning, the ideal method of disposal would be retrograding sharps containers to the closest area with a functional medical waste incinerator (usually the Brigade Support Area) during a regularly scheduled supply run. If this is not possible, sharps may be burned along with the other medical waste. Sharps should only be buried when *no other* form of disposal is available.

OPEN BURNING

Burning medical waste in drums or pits can be done in a safe and efficient manner by following these guidelines.

FOR SAFETY REASONS, use a stick, pole or other equivalent means of lighting the fuel from a distance of at least 3 feet.

DO NOT stand directly over the drum/pit when starting the fire. Many Soldiers have received burns to the face and hands as a result of standing too close to the drum/pit when igniting the fuel.

Whenever possible, avoid burning when wind and other conditions can cause the smoke plume to remain close to the ground or to blow in the direction of personnel on the FOB/FOS.

Typically, medical waste is burned with normal solid waste (general trash). The recommended mixture of medical waste to general trash should be approximately 50% by weight of medical waste to 50% by weight of general trash. This mixture will help achieve a hotter and cleaner burn.

To ignite the burn, a mixture of 1 part gasoline (MOGAS) to 5 parts JP8 is recommended. This produces a cleaner burn than 100% JP8, while minimizing the risks associated with using only MOGAS.

PPE FOR SOLDIERS PERFORMING THE BURN

Soldiers burning the waste should wear both skin protection (follow previously discussed Universal Precautions) and respiratory protection when conducting the burn. Every effort should be made to remain upwind and out of any smoke. A paper surgical mask will not protect from the hazards inherent in burning the waste and should not be substituted for a more appropriate National Institute for Occupational Safety and Health approved industrial air purifying respirator. The M40 protective mask will protect the user from smoke particulates while performing the burn.

Use of the M40 for respiratory protection will not compromise the primary function of the mask (chemical/biological agent protection). The filter for the M40 mask should be changed per existing guidance, such as, when the breathing resistance through the filter becomes difficult.

A mask with a N100 rating can also be used to provide appropriate respiratory protection. The mask can be ordered through supply (NSN 4240-01-452-8348).

CONCERNS WITH OPEN BURNING

Burning medical waste in this manner will not put Soldiers at risk of exposure to any pathogens during burning. According to the Centers For Disease Control and Prevention and the World Health Organization, when using dry heat (no steam) for destroying pathogens, temperatures of at least 320° F (160° C) are required to render the pathogens non-infectious. The temperature of the MOGAS/JP8 mixture will be *at least* 446° F (230° C). This is the auto ignition temperature of JP8 *without* factoring in the MOGAS. The temperature of the fire with the MOGAS added will actually be higher. Any pathogens in the medical waste will be destroyed upon burning and will not be present in the smoke.

Smoke inhalation by Soldiers on the FOB/FOS during the burn can be minimized by burning downwind from the FOB/FOS and closing windows/tent flaps during the burn. It is not necessary for Soldiers on the FOB/FOS, who are not in the immediate vicinity of the burn, to wear their masks during a burn.

BURYING RMW

If necessary, burial below scavenger depth (approx. 8 ft) is an acceptable disposal method for medical waste. Preferably, this would be done in conjunction with sterilization or grinding, but it is not required. Because landfills are extremely hostile environments to human pathogens, very little risk of harm to human health or the environment would result.

NEVER use steam sterilizers that treat surgical instruments for the additional purpose of treating medical waste.

For further information please contact Ms. Debbie Hursh, USACHPPM Hazardous and Medical Waste Program (HMWP) at DSN 584-5235 (from overseas 312 584-5235) or the HMWP at 584-3651 or 312 584-3651.